U.S. Department of the Interior
Bureau of Land Management
White River Field Office
73544 Hwy 64
Meeker, CO 81641

ENVIRONMENTAL ASSESSMENT

NUMBER: CO-110-2005-141-EA

CASEFILE/PROJECT NUMBER (optional):

PROJECT NAME: 7 APD's (399-1-1, 399-2-1, 299-34-1, 299-34-2, 299-27-5, 299-27-6, 299-22-1)

LEGAL DESCRIPTION: T. 2S, R. 99W, sec. 34 (299-34-1)
T. 3S, R. 99W, sec. 1 (399-1-1)
T. 3S, R. 99W, sec. 2 (399-2-1)
T. 2S, R. 99W, sec. 34 (299-34-2)
T. 2S, R. 99W, sec. 27 (299-27-5)
T. 2S, R. 99W, sec. 27 (299-27-6)
T. 2S, R. 99W, sec. 22 (299-22-1)

APPLICANT: Riata Energy, Inc.

ISSUES AND CONCERNS (optional):

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES:

Background/Introduction: Onsite was conducted on May 5, 2005.

Proposed Action: Riata Energy, Inc. is proposing to drill seven gas well locations with associated access roads and pipelines. The table below shows the proposed disturbance for each well and associated access and pipelines.

Well Name	Surface Owner	Location Size (Ac)	Access Rd. Disturbance (Ac)	Pipeline Disturbance	Acres Disturbed (Total)
399-1-1	BLM	1.55 (255'X265')	.36 (528'X30')	Included in access rd.	1.91
399-2-1	Private Surface	1.55 (255'X265')	.18 (255'X30')	4.37 (1.05 BLM) (1531'X30')	6.10 (1.05 BLM)
299-34-1	Private Surface	1.37 (225'X265')	.03 (50'X30')	.05 (70'X30')	1.45
299-34-2	Private Surface	1.55 (255'X265')	.02 (25'X30')	.09 (130'X30')	1.66
299-27-5	BLM	1.55 (255'X265')	.55 (792'X30')	Included in access rd.	2.10
299-27-6	BLM	1.55 (255'X265')	.36 (528'X30')	Included in access rd.	1.91
299-22-1	BLM	1.55 (255'X265')	4.0 (5808'X30')	Included in access rd.	5.55
				Total Project Acres	20.68
				Total BLM Acres	**15.63**

Total disturbance for the project will be 20.68 acres (BLM disturbed surface will be 15.63 acres).

Existing roads and newly constructed roads on surface under the jurisdiction of any Surface Managing Agency shall be designed and constructed according to the standards provided in BLM Manual 9112. Existing roads will be maintained and kept in good repair during all drilling and completion operations associated with this well. Water bars and water dips will be constructed as needed along the access route. No low water crossings will be necessary. The need for surfacing material is not anticipated; however, if it is necessary due to inclement weather, then surfacing will be applied to the access road and well pad. Surface disturbance and vehicular traffic will be limited to the approved location and approved access route.

All permanent structures (onsite for 6 months or longer) constructed or installed (including oil well pump jacks) will be painted a flat, non-reflective, Juniper Green color to match the standard environmental colors, as determined by the Rocky Mountain Five-State Interagency Committee. All facilities will be painted within six-months of installation. Facilities required to comply with the Occupational and Safety Health act (OSHA) will be excluded. Compaction and construction of the berms surrounding the tank batteries will be designed to prevent lateral movement of fluids through the utilized materials, prior to storage of fluids. The berms must be constructed to contain a minimum 110 percent of the storage capacity of the largest tank within the berm. All loading lines will be placed inside the berm.

All portions of the pad not required for production operations will be reclaimed. A dike will be constructed completely around the production facilities (i.e. production tanks, water tanks, and/or heater treater). The dikes for the production facilities will be sufficiently impervious, made of a non-porous material and designed to contain one hundred and ten percent of the capacity of the largest tank. Any production pits will be fenced with at least four (4) strands of barbed wire and held in place by side posts and corner H-braces.

All access roads will be upgraded and maintained as necessary to prevent erosion and accommodate year-round traffic. Any necessary pits will be fenced to prevent wildlife entry. The reserve pit will be properly backfilled and will not be used for production operations. Water will be pumped or hauled to the location along the approved access roads. No water wells are to be drilled. Surface and subsoil materials in the immediate area will be utilized**.** No construction materials will be removed from Federal lands. Where surfacing is needed for the access roads, it will be obtained from the spoils material in the reserve pit. Any materials to be used which are under BLM jurisdiction shall be approved in advance, as per CFR 3610.2-3.

Drill cuttings are to be contained and buried in the reserve pit. Trash and garbage will be contained in a closed receptacle. Burning and/or burying is not authorized unless previously approved by the authorized Officer (AO) during winter conditions. Contents from trash receptacle will be hauled to an approved landfill. Reserve pit will evaporate or authorization for removal and disposal will be requested from the AO prior to backfilling the reserve pit. The salts and/or chemicals which are an integral part of the drilling system will be disposed of in the same manner as the drilling fluid. A chemical porta-toilet will be furnished with the drilling rig.

The produced fluids will be produced into a test tank until such time as construction of production facilities is completed. Any spills of oil, gas, salt, water or other produced fluids will be cleaned up and removed.

Approximately 6 inches of topsoil will be stripped from this location and stockpiled at the site. A plastic pit liner will be installed in the reserve pit. It will be of sufficient mil to prevent seepage. Excavation of the reserve pit will require that on half of the fluid capacity is below the ground level. Reserve and produced water pits containing oily residue must be overhead flagged. Pits remaining after the drilling period which store or are expected to store production fluids will be wired or netted to prevent or discourage entry by larger birds attracted to sources of water, including raptors and waterfowl. At a minimum, wire will be stretched over the entire length and breadth of the pit at intervals not exceeding three feet, and made permanently conspicuous either by choice of material or installation of flagging material evenly distributed across the pit at a minimum rate of one flag per 18 square feet.

These pits must be fenced with 28-inch, sheep tight mesh wire with two strands of barbed wire above and separated by approximately 6 inches. The reserve pit must be fenced on three sides during drilling; the fourth side must be fenced immediately after the rig is released. Berms will be required to keep water runoff out. A minimum of 2 feet freeboard will be maintained between the maximum fluid level and the top of the berm. In the event downhole operations threaten to exceed the required 2-foot freeboard, regarding reserve pit fluids, immediate notification will be provided to the AO with concurrent steps taken to minimize the introduction of additional fluids, until alternative containment methods can be approved. The backfilling of the reserve pit will be completed within 30 days after conditions exist and will meet the following requirements:

- Backfilling will be done in such a manner that the muds and associated solids will be confined to the pit and not squeezed out and incorporated into the surface materials.
- There will a minimum, of 5 feet of cover (overburden) on the pit.
- When the work is completed, the pit area will support the weight of heavy equipment without sinking and over time shall not subside over 6-inch depth.

Reclamation will be done as requested by the BLM. In the event a producing well is completed, the unused areas of the well location will be recontoured to appropriate configuration (that allows lease operations and alleviates steep cut and fill slopes, minimizing accelerated erosion). Some of the stockpiled topsoil will be redistributed over the unused area and revegetated with approved seed mixture. This will be done immediately after proper backfilling and recontouring of the reserve pit has occurred. A seed mixture will be provided by the BLM in the Conditions of Approval. Use certified seed. Seed certification tags must be submitted to the Field Manager. Additional seed applications may be required to accommodate specific site conditions or if initial seed germination has failed. The goal for rehabilitation of any disturbed area shall be the permanent restoration of original site conditions and productive capability.

In the event of a dry hole, the location will be recontoured to the original grade, top soiled, seeded with approved seed mixture. The topsoil will be evenly distributed over the location. All pits, cellars, rat holes, and other bore holes unnecessary for further lease operations excluding the reserve pit, will be backfilled immediately after the drilling rig is released. Pits, cellars and/or bore holes that remain on location must be fenced as specified for the reserve pit.

Control of noxious weeds will be required through successful vegetation establishment and/or herbicide application. Applications of the herbicide are prescribed; however, it is the responsibility of the lease operator to insure compliance with the local, state, and Federal laws and regulations, as well as labeling directions specific to the use of any given herbicide. Application of pesticides and herbicides on public lands will conform to BLM Manual H-9011-1 and 9015. Applications of herbicides would be under the field supervision of an EPA certified pesticide Applicator.

The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days, the AO will inform the operator as to:

- whether the materials appear eligible for the National Register of Historic Places,
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming *in situ* preservation is not necessary),
- a timeframe for the AO to complete an expedited review under 36 CFR 800-11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate.

A Class III survey has been conducted by Grand River Institute. No significant cultural resources were found and clearance has been recommended.

All state and local permits required for proposed operations will be obtained prior to commencing any activity that may be affected by such authorization.

No Action Alternative: In the no-action alternative the wells and flowlines would not be permitted; there would be no new disturbance.

ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD: The access road to three wells (27-5, 27-6, and 22-1) originally came off County Road 68. During the onsite, for wildlife concerns and future development of wells in the area, it was decided to minimize disturbance by constructing access off of well pad #299-27-2. The access off County Road 70 was analyzed but not considered.

NEED FOR THE ACTION: To respond to the request by applicant to exercise lease rights and develop hydrocarbon reserves

PLAN CONFORMANCE REVIEW: The Proposed Action is subject to and has been reviewed for conformance with the following plan (43 CFR 1610.5, BLM 1617.3):

Name of Plan: White River Record of Decision and Approved Resource Management Plan (ROD/RMP).

Date Approved: July 1, 1997

Decision Number/Page: Pages 2-5

Decision Language: "Make federal oil and gas resources available for leasing and development in a manner that provides reasonable protection for other resource values."

AFFECTED ENVIRONMENT / ENVIRONMENTAL CONSEQUENCES / MITIGATION MEASURES:

STANDARDS FOR PUBLIC LAND HEALTH: In January 1997, Colorado Bureau of Land Management (BLM) approved the Standards for Public Land Health. These standards cover upland soils, riparian systems, plant and animal communities, threatened and endangered species, and water quality. Standards describe conditions needed to sustain public land health and relate to all uses of the public lands. Because a standard exists for these five categories, a finding must be made for each of them in an environmental analysis. These findings are located in specific elements listed below:

CRITICAL ELEMENTS

AIR QUALITY

Affected Environment: The proposed actions are not located within a thirty mile radius of any special designation air sheds or non-attainment areas.

Environmental Consequences of the Proposed Action: Temporary reductions in vegetal cover resulting from construction activities will leave soils temporarily exposed to eolian processes. During dry and windy periods, air quality may be compromised due to increased levels of fugitive dust originating from the exposed construction area. Overall, the proposed action alone should not greatly compromise National Ambient Air Quality Standards (NAAQS) on an hourly or daily basis.

Environmental Consequences of the No Action Alternative: None

Mitigation: The operator will be responsible for complying with all local, state, and federal air quality regulations as well as providing documentation to the BLM that they have done so.

To minimize production of fugitive dust, vehicle speeds must not exceed 15 mph *or* dust plumes must not be visible at speeds appropriate for road design. The application of a dust suppressant (e.g. water or "Dust Stop") will be required during dry periods when dust plumes are visible at speeds less than or equal to 15 mph.

Topsoil stockpiled for short time periods as is the case with road and pipeline construction will be wetted to limit dust production. Stockpiled soils left for extended time periods (e.g. stockpiles associated with pad construction) will be covered with geotextile fabrics such as (but not limited to) jute netting. Covered stockpiles will then be seeded per recommendations in the Vegetation section below.

CULTURAL RESOURCES

Affected Environment: All well pads and access routes have been inventoried at the Class III (100% pedestrian) level (Conner 2005, Compliance Dated 8/1/2005) with no cultural resources identified in the well pad and access road area.

Environmental Consequences of the Proposed Action: All well pads and access routes will not impact any known cultural resources.

Environmental Consequences of the No Action Alternative: There would be no new impacts to cultural resources under the No Action Alternative.

Mitigation: In addition to the mitigation proposed in the proposed action: 1. If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

2. Pursuant to 43 CFR 10.4(g) the holder of this authorization must notify the AO, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.

INVASIVE, NON-NATIVE SPECIES

Affected Environment: No known noxious weeds occur at the immediate locations of the proposed wells and access roads. The noxious weed houndstongue is known to occur in Ryan Gulch above locations 299-34-1 and 299-34-2. The invasive alien cheatgrass (*Bromus tectorum*) occurs throughout the project area, primarily on areas of unrevegetated earthen disturbance associated with roads.

Environmental Consequences of the Proposed Action: The proposed action will create about 20 acres of new earthen disturbance, which if it is not revegetated with desirable species and /or treated with herbicides to eradicate noxious weeds/ cheatgrass, will be invaded and dominated by noxious weeds/cheatgrass, increasing the potential for fire and the consequent further proliferation of cheatgrass. Noxious weeds could also spread from the project site to

surrounding native rangelands resulting in a long term negative impact. The resulting proliferation of noxious weeds/cheatgrass will perpetuate a downward cycle of environmental degradation that will be largely irreversible. There will be a low likelihood of long term negative impact if the proposed mitigation is properly implemented.

Environmental Consequences of the No Action Alternative: There will be no change from the present situation.

Mitigation: Promptly revegetate all disturbed areas not necessary for production including pad and access road cut and fill slopes with Native Seed mix #3 (see Vegetation). Revegetation will commence immediately after recontouring and *will not be delayed until the following fall.* The operator will be required to monitor the project area for a minimum of three years post disturbance and eradicate all noxious and invasive species which occur on site using materials and methods approved in advance by the Authorized Officer.

MIGRATORY BIRDS

Affected Environment: The 5 proposed wells on Wagonroad and Dry Ryan Ridge involve Wyoming big sagebrush communities that are in advanced successional states characterized by aged sagebrush, depauperate herbaceous understories, and pinyon and juniper encroachment of variable age and density. The 399-22-1 and 399-1-1 locations are located on shrubland/ woodland interface that support an open canopy of mature trees intermixed with heavy tree regeneration. The remaining 3 well sites in the bottom of Ryan Gulch are comprised primarily of basin big sagebrush, greasewood, and rabbitbrush.

A number of migratory birds fulfill nesting functions in these predominantly big sagebrush habitats during the months of May, June, and July. Species associated with these shrublands are typical and widely represented in the Resource Area and region. As pinyon-juniper begins to establish on these sites, the abundance of sagebrush obligates declines and more generalized woodland species (e.g., chipping sparrow) begin to appear in small numbers. Those bird populations associated with this Resource Area's sagebrush communities identified as having higher conservation interest by the Rocky Mountain Bird Observatory/Partners in Flight program (i.e., Brewer's sparrow, green-tailed towhee) are abundant and well distributed in extensive suitable habitats throughout the Resource Area. Small numbers of woodland obligates of higher conservation interest (e.g., black-throated gray warbler, gray flycatcher, juniper titmouse, pinyon jay, and violet-green swallow) would be expected to forage in woodland regeneration, but with few exceptions, nesting functions would be associated with adjacent mature woodlands.

Environmental Consequences of the Proposed Action: Construction and drilling associated with these pads is scheduled to commence in September 2005 and be completed by May 2005. Based on this schedule, the potential to disrupt the nesting activities of migratory birds would generally be limited to 1 or 2 wells on Dry Ryan Ridge. In the event development activity extends into the May-June breeding season, levels of nest disturbance associated with the Dry Ryan locations would be discountable. The conditions associated with each of these pads (i.e., pinyon-juniper encroaching former sagebrush disclimax) tend to reduce the utility of the sites for nesting by species of higher conservation interest and the subsequent probability of their

sustaining strong nest densities. Overall, it would be unlikely that nesting activity of more than 2 pair of higher interest birds would be affected by drilling and completion activities that may extend into the nesting season.

Environmental Consequences of the No Action Alternative: There would be no action authorized that would have potential to disrupt the breeding activities of migratory birds. Alternate actions would have similar or more substantive consequences as those discussed under the proposed action.

Mitigation: None.

THREATENED, ENDANGERED, AND SENSITIVE ANIMAL SPECIES (includes a finding on Standard 4)

Affected Environment: No animals listed, proposed, or candidate to the Endangered Species Act inhabit or derive important benefit from the project area.

Greater sage-grouse, a BLM sensitive species and recently petitioned for Endangered Species Act listing, historically occupied broad lower-elevation sagebrush habitats on Wagonroad and Dry Ryan Ridges. No sage-grouse are known to have occupied these areas from the mid-1980's to late 1990's because of advanced community succession (i.e., pinyon encroachment/ serviceberry development on Wagonroad) or wildfire (i.e., only trace sagebrush redevelopment on Dry Ryan), but grouse have recently begun to reoccupy the southern end of the Dry Ryan burn for reproductive display (about 1 mile southwest of the Dry Ryan wells). All habitats in advanced successional states remain available and important for natural re-colonization or species recovery actions in the future.

Several other BLM sensitive species are possible seasonal inhabitants of the project vicinity (i.e., Townsend's big-eared bat, and fringed and Yuma myotis, northern goshawk), but rely on mature stands of pinyon and juniper for roosting and nesting substrate. Because areas potentially influenced by the proposed action involve only young regeneration or scattered mature trees, these project sites have no effective utility for goshawk nesting or bat roosting functions.

Environmental Consequences of the Proposed Action: Long-term clearing and occupation of habitats ultimately suitable for sage-grouse on Dry Ryan Ridge would be relatively small in extent (about 6 acres) and confined to the margins of the sagebrush type. Although construction of the 3 locations and access on Dry Ryan (i.e., 27-5, 27-6, and 22-1) would have no immediate influence on sagebrush habitats or sage-grouse activities, over the productive life of the well (20+ years), it is probable that sagebrush canopies will redevelop sufficiently to support sage-grouse across this park. As a means of minimizing development's long-term influence on sagebrush habitat utility (e.g., human and vehicle activity associated with recreation, livestock management, and gas production) and reducing impingement on future habitat extent and continuity (i.e., rehabilitating the existing 2-track to the south and confining activity to the park's margin), access to the 3 wells was modified during the on-site to originate from the existing 27-2 location and then follow, as closely as practicable, the woodland/shrubland interface (i.e., the northern periphery of the former sagebrush park). This strategy offers incremental long-term

benefit to sage-grouse (i.e., increasing the extent of contiguous sagebrush habitat by about 100 acres) although public access, surface disturbance requirements, and road density would remain unchanged.

The use of interim reclamation measures would be investigated in an attempt to regain functional rangeland and habitat values prior to well abandonment (see mitigation section).

Due to the present character and extent of habitat poorly suited for grouse use, it is less likely that sage-grouse would reoccupy those portions of Wagonroad Ridge associated with the proposed action over a reasonable period of time. The 2-1 well (private surface) is situated immediately adjacent to an existing county road and its 1.6 acres would largely be entrenched within the disturbance corridor attributable to the road. The 1-1 well is located on the periphery of potential sagebrush extent and, outside the 2 acres of long-term surface occupation, would have little effective influence on the future continuity of core habitats.

Environmental Consequences of the No Action Alternative: There would be no action authorized that could influence potential occupation of the Dry Ryan burn by greater sage-grouse.

Mitigation: The operator will be responsible for applying techniques to effectively abandon the existing 2-track that originates from RBC 68 near the middle of section 27 and extends northwest to the existing fence corner. The newly created well access to the existing fenceline will remain open for public access.

The use of interim reclamation techniques will be used to the extent practicable on all pads such that all available topsoil material would be used to recontour cut and fill slopes and areas outside the anchors (maintaining the viability of the soils for final reclamation), production facilities are located to maximize the extent of surface disturbance available for effective reclamation over the productive life of the well (e.g., where access road enters pad), and all disturbed areas are reseeded once well completion activities have been finalized.

Finding on the Public Land Health Standard for Threatened & Endangered species: The area potentially influenced by the proposed and no-action alternatives does not currently support habitats associated with listed animal species, therefore, neither alternative would influence the applicable rangeland health standards.

The former sagebrush park on Dry Ryan ridge has only limited capacity at supporting sage grouse at the present time. However, because this park is undergoing a natural and necessary ecological process of rejuvenation by fire (e.g., understory development, improved sagebrush conformation for cover), the area meets the Public Land Health Standard for special status species.

Although long-term occupation of sagebrush habitats on Dry Ryan Ridge is expected to depress future habitat capacity for sage-grouse, the proposed action would have no substantive influence on the greater habitat core and, on a landscape scale; its implementation would not interfere with continued near-term meeting of the land health standards. By relocating the access for the 3 Dry Ryan pads to the northern edge of the park (woodland/shrubland interface) and rehabilitating the

existing 2-track trail that currently bisects the park, long term disturbance and activity associated with the proposed action is shifted to the margin of suitable habitat. Although incremental in effect, these actions would help maintain the long term integrity of the park for future sage grouse occupation by enhancing the continuity of sagebrush habitats and reducing the extent of disruptive influences on suitable habitats. These Conditions of Approval would help to minimize the deterioration of habitat character important to those species associated with big sagebrush communities, and in so doing, the proposed action is consistent with continued meeting of the land health standards.

Failure to authorize this action (no action alternative) would have no further influence on the Health Standard for special status species.

WASTES, HAZARDOUS OR SOLID

Affected Environment: There are no known hazardous or other solid wastes on the subject lands. No hazardous materials are known to have been used, stored or disposed of at sites included in the project area.

Environmental Consequences of the Proposed Action: No listed or extremely hazardous materials in excess of threshold quantities are proposed for use in this project. While commercial preparations of fuels and lubricants proposed for use may contain some hazardous constituents, they would be stored, used and transported in a manner consistent with applicable laws, and the generation of hazardous wastes would not be anticipated. Solid wastes would be properly disposed of.

Environmental Consequences of the No Action Alternative: No hazardous or other solid wastes would be generated under the no-action alternative.

Mitigation: The applicant shall be required to collect and properly dispose of any solid wastes generated by the proposed actions.

WATER QUALITY, SURFACE AND GROUND (includes a finding on Standard 5)

Affected Environment: Surface water: The proposed actions will be situated within the Stake Springs, Ryan Gulch, Piceance Creek, and Black Sulfur Creek catchment areas. Affected stream segments are 13b, 16, and 20 of the White River Basin. A review of the Colorado's 1989 Nonpoint Source Assessment Report (plus updates), the 305(b) report, the 303(d) list and the White River ROD/RMP was done to see if any water quality concerns have been identified. It should be noted that Yellow creek (stream segment 13b) has been identified by the state as a perennial watershed NOT meeting water quality standards for suspended sediment and salinity. The State has classified stream segments 13b and 16 as "Use Protected" and further designated as beneficial for the following uses: Warm Aquatic Life 2, Recreation 2, and Agriculture. The antidegredation review requirements in the Antidegredation Rule are not applicable to waters designated use-protected. For those waters, only the protection specified in each reach will apply. For these reaches, minimum standards for four parameters have been listed. These parameters

are: dissolved oxygen = 5.0 mg/l, pH = 6.5 - 9.0, Fecal Coliform = 2000/100 ml, and 630/100 ml E. coli. Stream segment 20 has not been designated "Use Protected" and therefore the Antidegredation Rule is applicable to this reach. Table values outline maximum concentration levels for physical, biological, inorganic, and metallic substances in this reach.

Ground Water: A review of the USGS Ground Water Atlas of the United States (HA 730-C) was done to assess ground water resources at the location of the proposed action. The shallowest aquifer underlying the proposed action is the Uinta-Animas aquifer. The Uinta-Animas aquifer at this location consists of the Uinta Formation and the Parachute Creek member of the Green River Formation. During the drilling process it is likely that deep ground water from the Fort Union Formation and Mesaverde Group also be encountered. Local ground water located in alluvial material may also be affected if contaminants are allowed to infiltrate the soils.

Environmental Consequences of the Proposed Action: Construction of access roads, pipelines and well pads will result in temporary exposure of soils to erosional processes. Heavy equipment used during construction combined with the removal of ground cover will increase erosive potential due to runoff (overland flows) and raindrop impact during storm events.

Local ground water may be contaminated if a spill results or pit contents are allowed to infiltrate soils. Adverse impacts on deeper ground water are possible as a result of cross aquifer contamination due to drilling.

Environmental Consequences of the No Action Alternative: None

Mitigation: No operations using chemical processes or other pollutants in their activities will be allowed to occur within 200 feet of any water bodies. The operator will be responsible for complying with all local, state, and federal water quality regulations as well as providing documentation to the BLM that they have done so.

Comply with "Gold Book" surface operating standards for constructing well pads, pipelines and access roads. In compliance with the White River ROD/RMP, drain dips will be used in place of culverts on slopes less than 10%. Energy dissipaters such as large gravels/small cobbles will be used at culvert and drainage dip outlets to minimize additional erosion. To mitigate water being channelized down the roadway, all activity must stop when soils or road surfaces become saturated to a depth of three inches. Mud blading will be prohibited in attempts to reduce further soil displacement. In addition, to mitigate surface erosion due to removal of ground cover at well pads, stockpiled soils must be covered and silt fences will be used on down gradient sides.

Complete reclamation will follow abandonment of well pads and access roads. Access roads and well pads will be recontoured, flow deflectors and sediment traps (woody debris) will be evenly redistributed over all disturbed areas, and 100% of disturbed surfaces will be revegetated with Native Seed Mix #3.

To mitigate contamination of local ground water, environmentally unfriendly substances (e.g. diesel) must not be allowed to contact soils. The use of impermeable matting under equipment is suggested to intercept such contaminants prior to contacting soils. Furthermore, all pits must be lined and all wastes associated with construction and drilling will be properly treated and

disposed of. Finally, aquifers beneficial for human consumption and livestock encountered during the drilling process must be properly sealed to reduce potential for contamination.

Finding on the Public Land Health Standard for water quality: Water quality in stream segments 16 and 20 currently meet standards set by the state. However, Yellow Creek (stream segment 13b) as been identified by the state as a perennial stream not meeting standards for suspended sediment and salinity. However, with proper mitigation/reclamation procedures, water quality in Yellow Creek will be unaffected.

WETLANDS AND RIPARIAN ZONES (includes a finding on Standard 2)

Affected Environment: There are no wetlands or riparian zones potentially influenced by the proposed or no-action alternatives. The nearest persistent waters are the intermittent Stake Springs Draw, about 1.5 miles downstream of the Dry Ryan Ridge wells, and Ryan Gulch, greater than 0.5 mile downstream of the Ryan Gulch (private) wells and the 2-1 location, and perennial flows in Black Sulphur Creek, about 2 miles downstream of the 1-1 well.

Environmental Consequences of the Proposed Action: Because of lengthy downstream separation (i.e., 0.5 to 2 miles) via ephemeral channels, there is no reasonable probability of riparian conditions or function being potentially influenced by this action.

Environmental Consequences of the No Action Alternative: There would be no action authorized that would have any conceivable influence on downstream riparian communities.

Mitigation: None

Finding on the Public Land Health Standard for riparian systems: The proposed and no-action alternatives would have no conceivable influence on the condition or function of downstream channel or riparian systems. These actions are even more distantly removed from the nearest BLM-administered lands (i.e., an additional 4 miles in Yellow Creek and over 20 miles in the case of Piceance Creek via Black Sulphur) and they would have no potential to influence the status of land health standards as applied to those stream reaches.

CRITICAL ELEMENTS NOT PRESENT OR NOT AFFECTED:

No ACEC's, flood plains, prime and unique farmlands, Wilderness, or Wild and Scenic Rivers, threatened, endangered or sensitive plants exist within the area affected by the proposed action. For threatened, endangered and sensitive plant species Public Land Health Standard is not applicable since neither the proposed nor the no-action alternative would have any influence on populations of, or habitats potentially occupied by, special status plants. There are also no Native American religious or environmental justice concerns associated with the proposed action.

NON-CRITICAL ELEMENTS

The following elements **must** be addressed due to the involvement of Standards for Public Land Health:

SOILS (includes a finding on Standard 1)

Affected Environment: The following data is a product of an order III soil survey conducted by the Natural Resource Conservation Service (NRCS). The accompanying table highlights important soil characteristics. A complete summary of this information can be found at the White River Field Office.

CSU-1 fragile soils are mapped over several locations of the access road. However, after observation of a topographic map it was verified that the proposed action dose not encounter slopes exceeding 35%. Because surface disturbing activities will not occur on slopes greater that 35% controlled surface use stipulations will not apply.

Soil Number	Soil Name	Slope	Ecological site	Salinity	Run Off	Erosion Potential	Bedrock
6	Barcus channery loamy sand	2-8%	Foothills Swale	<2	Slow	Moderate	>60
36	Glendive fine sandy loam	N/A	Foothills Swale	2-4	Slow	Slight	>60
70	Redcreek-Rentsac complex	5-30%	PJ woodlands/PJ woodlands	<2	Very high	Moderate to high	10-20
73	Rentsac channery loam	5-50%	Pinyon-Juniper woodlands	<2	Rapid	Moderate to very high	10-20

6-Barcus channery loamy sand (2 to 8 percent slopes) is a deep, somewhat excessively drained soil located on alluvial fans and in narrow valleys. It formed in alluvium derived from calcareous sandstone and shale. The native vegetation is mainly low shrubs and grasses. Typically, the surface layer is pale brown channery loamy sand 6 inches thick. The upper part of the underlying material is light yellowish brown channery sand 10 inches thick, and the lower part to a depth of 60 inches or more is stratified, light yellowish brown and pale brown very channery sand and very channery loamy fine sand. The soil is calcareous throughout. Permeability of the Barcus soil is rapid. Available water capacity is low. Effective rooting depth is 60 inches or more. Runoff is slow, and the hazard of water erosion is moderate.

36-Glendive fine sandy loam is a deep, well drained soil found along drainage ways on alluvial valley floors. It formed in alluvium. The native vegetation is mainly low shrubs and grasses. Typically, the surface layer is pale brown fine sandy loam 6 inches thick. The underlying material to a depth of 60 inches or more is very pale brown, stratified fine sandy loam that has thin lenses of loamy fine sand to sandy clay loam. The soil is calcareous throughout. Permeability of this Glendive soil is moderately rapid. Available water capacity is moderate. Effective rooting depth is 60 inches or more. Runoff is slow, and the hazard of water erosion is slight. The soil is subject to rare periods of flooding.

70-Redcreek-Rentsac complex (5 to 30 percent slopes) can be found on mountainsides and ridges. The native vegetation is mainly pinyon and juniper trees with an understory of shrubs and grasses. The Redcreek soil is shallow and well drained. It formed in residual and eolian material derived dominantly from sandstone. Typically, the surface layer is brown sandy loam about 4 inches thick. The next layer is brown, calcareous sandy loam about 7 inches thick. The underlying material is very pale brown, calcareous channery loam 5 inches thick. Hard sandstone is at a depth of 16 inches. Depth to hard sandstone or hard shale ranges from 10 to 20 inches. Permeability of the Redcreek soil is moderately rapid. Available water capacity is very low. Effective rooting depth is 10 to 20 inches. Runoff is medium, and the hazard of water erosion is moderate to high.

The Rentsac soil is shallow and well drained. It formed in residuum derived dominantly from sandstone. Typically, the upper part of the surface layer is grayish brown channery loam about 5 inches thick. The next layer is brown very channery loam about 4 inches thick. The underlying material is very pale brown extremely flaggy loam 7 inches thick. Hard sandstone is at a depth of 16 inches. Permeability of the Rentsac soil is moderately rapid. Available water capacity is very low. Effective rooting depth is 10 to 20 inches. Runoff is medium, and the hazard of water erosion is moderate to high.

73-Rentsac channery loam (5 to 50 percent slopes) is a shallow, well drained soil found on ridges, foothills, and side slopes. It formed in residuum derived dominantly from calcareous sandstone. The native vegetation is mainly pinyon, juniper, brush, and grasses.

Typically, the surface layer is grayish brown channery loam about 5 inches thick. The next layer is very channery loam about 4 inches thick. The underlying material is extremely flaggy light loam 7 inches thick. Hard sandstone is at a depth of 16 inches. Depth to sandstone ranges from 10 to 20 inches. Permeability of this Rentsac soil is moderately rapid. Available water capacity is very low. Effective rooting depth is 10 to 20 inches. Runoff is rapid, and the hazard of water erosion is moderate to very high.

Environmental Consequences of the Proposed Action: Construction of well pads, pipelines, and access roads would contribute to a loss in vegetation and ground cover. Increased truck traffic would elevate soil compaction and contribute to decreased infiltration rates. Improper drainage from the project areas combined with decreased infiltration rates could increase potential for overland flows and accelerate erosional processes. In addition, rilling and gully formation may result due to the calcareous nature of the affected soils.

Leaks or spills of environmentally unfriendly substances (e.g. diesel or deep ground water) on or near the pad may contaminate soils hindering revegetation efforts. Soils unable to support a healthy plant community will be less cohesive (due to lack of root structure) and more vulnerable to erosional processes.

Environmental Consequences of the No Action Alternative: None

Mitigation: In addition to mitigation discussed in the Water Quality section: To reduce the impacts of compaction and rut development caused by increased traffic on newly constructed access roads, only BLM authorized motorized vehicle travel will be permitted. Gate installation

combined with additional physical obstructions (e.g. rock boulders) will be necessary to keep unauthorized traffic from deteriorating the roadway.

Finding on the Public Land Health Standard for upland soils: At the present time, soils in the vicinity of the proposed actions exhibit infiltration and permeability rates that are appropriate to soil type, landform, climate, and geologic processes. The proposed actions will cause decreases in both infiltration and permeability rates due to soil compaction and loss of vegetal cover. However, following proper mitigation the state of soil health should not be greatly changed from current conditions.

VEGETATION (includes a finding on Standard 3)

Affected Environment: The access roads, locations, and pipeline routes occur in a variety of vegetation types. Locations 34-1 and 34-2, access roads and pipeline routes occur on sites dominated by basin big sagebrush with a mixed perennial grass/cheatgrass understory. The corresponding ecological site is Foothill Swale. These sites would be classified as early seral due to the presence of cheatgrass and the density of basin big sagebrush.

The remainder of the sites, access roads and pipeline routes are on uplands which are best characterized as mixed pinyon/Wyoming big sagebrush with a perennial grass/forb understory. The principal ecological site associated with this vegetation type is Rolling Loam. The pinyons are primarily young age trees, and with the exception of 22-1, which is a true woodland site, trees are invading this potential shrub/grass site primarily because of historical fire suppression practices.

Environmental Consequences of the Proposed Action: The proposed action will create about (20) twenty acres of new earthen disturbance. The principal impact to vegetation will be complete removal of vegetation on the well sites, access roads and pipelines, and the earthen disturbance associated with it. In terms of plant community composition, structure and function, the principal negative impact over the long term would occur if cheatgrass or noxious weeds are allowed to establish and proliferate on the disturbed areas resulting from pad, pipeline, and access road construction.

Environmental Consequences of the No Action Alternative: There will be no change from the present situation.

Mitigation: 1) Promptly revegetate all disturbed areas with Native Seed Mix # 3: Seed mixture rates are Pure Live Seed (PLS) pounds per acre.

Native Seed Mix #3		
Western wheatgrass (Rosanna) Bluebunch wheatgrass (Whitmar) Needle and thread Indian ricegrass (Rimrock) Fourwing saltbush (Wytana) Utah sweetvetch	2 2 1 2 1 1	Gravelly 10"-14", Pinyon/Juniper Woodland, Stony Foothills, 147 (Mountain Mahogany)

2) If construction/development occurs between April 15 and November 15, the operator will be required to water or surface access roads to reduce airborne dust and damage to roadside vegetation communities.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Wildlife, Aquatic and Wildlife, Terrestrial)*:* Vegetation in the project area currently meets the Standard on a watershed basis and is expected to continue to meet the Standard in the future following implementation of the proposed action.

WILDLIFE, AQUATIC (includes a finding on Standard 3)

Affected Environment: The nearest systems supporting aquatic wildlife communities are private reaches of Black Sulphur Creek (about 2 channel miles downstream of the 1-1 location) and Yellow Creek (>6 miles downstream of the Dry Ryan Ridge wells).

Environmental Consequences of the Proposed Action: Because of lengthy downstream separation (i.e., 2-6 miles) via ephemeral and intermittent channels, there is no reasonable probability of aquatic habitats being potentially influenced by this action.

Environmental Consequences of the No Action Alternative: There would be no action authorized that would have potential to influence downstream aquatic habitats. Alternate locations would likely have impacts similar to those associated with the proposed action.

Mitigation: None.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Terrestrial): The proposed and no-action alternatives would have no conceivable influence on the condition or function of downstream aquatic habitats (privately owned). These actions are even more distantly removed from the nearest BLM-administered lands (i.e., an additional 4 miles in Yellow Creek and over 20 miles in the case of Piceance Creek via Black Sulphur) and they would have no potential to influence the status of land health standards as applied to those stream reaches.

WILDLIFE, TERRESTRIAL (includes a finding on Standard 3)

Affected Environment: The proposed wells are encompassed by higher elevation winter ranges of deer and the general winter distribution of elk. These ranges are most consistently occupied by the largest number of animals from October through January and again in April and early May. Six of the 8 well locations are located adjacent to maintained county or private ranch roads (i.e., all except 2 upland sites on Dry Ryan Ridge) and all of the 5 upland sites involve historic sagebrush parks that are decadent and becoming increasingly encroached by pinyon-juniper regeneration.

Non-game wildlife using this area are typical and widely distributed in extensive like habitats across the Resource Area and northwest Colorado; there are no narrowly endemic or highly

specialized species known to inhabit those lands potentially influenced by this action. The proposed well sites were found to involve no mature woodland habitat suitable for raptor nesting functions (i.e., on-sites attended by BLM biologist, May 2005). Although lengthy sandstone cliff series occur in Ryan Gulch, no evidence of red-tailed or golden eagle nest activity was found in the project vicinity.

Environmental Consequences of the Proposed Action: Predominant big game use of the project area would occur outside the projected construction and drilling timeframes. Short-term effects to local deer and elk herds may include displacement of individuals during pad construction, drilling activity, and pipeline installation; however, no long-term effects to seasonal distribution or movement are expected.

Except for the Dry Ryan wells, access requirements for these pads would be negligible (0.3 mile) and would not add substantively to the density of local road networks (i.e., relating to habitat disuse adjacent to disturbance and elevated energetic demands associated with harassment). Newly constructed well access on Dry Ryan would be largely offset by abandonment of the existing 2-track such that local road density influences would remain similar to current conditions. Although animal displacement is likely to occur in the vicinity of active drilling and completion operations (e.g., 30-50 acres at any given time), the affects would be minor since the project area involves more extensive general winter range extent (i.e., fewer animals affected as winter progressed) and the majority of activity would be generally confined to maintained access corridors (6 of 8 wells). Much of the proposed surface disturbance would occur in situations where habitat utility is currently compromised by existing features (road margins) or that support limited woody forage production (e.g., pinyon-juniper encroached Wyoming big sagebrush, basin big sagebrush bottomlands). Longer term occupation of these lands and the reduction in the herbaceous and woody forage base for big game (about 9 acres) would be discountable. Short term reductions in the herbaceous forage base on pipeline acreage (about 9 acres) would be largely regained through reclamation by the following growing season. Similarly, the loss of forage and cover for non-game animals would be negligible at the local scale.

It has recently been brought to BLM's attention that in certain situations migratory waterfowl have contacted drilling or frac fluids (i.e., stored in reserve pits) during or after completion operations and are suffering mortality in violation of the Migratory Bird Treaty Act. The extent and nature of the problem is not well defined, but is being actively investigated by the federal agencies and the companies. Until the vectors of mortality are better understood, management measures must be conservative and relegated to preventing bird contact with frac and drilling fluids that may pose a problem.

Environmental Consequences of the No Action Alternative: No immediate action would be authorized that would have potential to adversely modify terrestrial wildlife habitats or be capable of disrupting animal behavior within the project area.

Mitigation: Mitigation that is applicable to terrestrial habitats, in part, has been incorporated into the proposed action or addressed in the Threatened, Endangered, and Sensitive Animal section above.

The operator shall prevent use by migratory birds of reserve pits that store or are expected to store fluids which may pose a risk to such birds (e.g., migratory waterfowl, shorebirds, wading birds and raptors) during completion and after completion activities have ceased. Methods may include netting, the use of bird-balls, or other alternative methods that effectively prevent use and that meet BLM approval. It will be the responsibility of the operator to notify the BLM of the method that will be used to prevent use two weeks prior to when completion activities are expected to begin. The BLM approved method will be applied within 24 hours after completion activities have begun. All lethal and non-lethal events that involve migratory birds will be reported to the Petroleum Engineer Technician immediately.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Aquatic): The project area presently meets the public land health standards for terrestrial animal communities. The proposed action and no-action alternatives would have negligible short and long term influence on the utility or function of big game, raptor, or nongame habitats in the vicinity of these sites. Although pads and access associated with the proposed action, cannot be considered as meeting the definition of the land health standard, the overall shrubland communities comprising this landscape retain sufficient character to support viable populations of resident game and nongame species. Thus, in an overall context, lands affected by the no-action or proposed action would continue to meet the land health standard for terrestrial animals.

OTHER NON-CRITICAL ELEMENTS: For the following elements, only those brought forward for analysis will be addressed further.

Non-Critical Element	NA or Not Present	Applicable or Present, No Impact	Applicable & Present and Brought Forward for Analysis
Access and Transportation			X
Cadastral Survey	X		
Fire Management			X
Forest Management		X	
Geology and Minerals			X
Hydrology/Water Rights	X		
Law Enforcement	X		
Noise		X	
Paleontology			X
Rangeland Management			X
Realty Authorizations			X
Recreation			X
Socio-Economics		X	
Visual Resources			X
Wild Horses	X		

Affected Environment: Rio Blanco County Roads 68 and 144 are adjacent to proposed pads. Pad locations exist within an area designated as open to motorized cross-country travel from May 1 to September 30 and limited to existing routes the remainder of the year.

Environmental Consequences of the Proposed Action: An increase of traffic would be expected to occur while these pads are being constructed. Traffic to the pads will be less frequent after pad completion. Pads provide no additional public access to public lands.

Environmental Consequences of the No Action Alternative: None.

Mitigation: None.

FIRE MANAGEMENT

Affected Environment: : The 22-1 well proposed involves approximately 0.15 miles of road construction and about 1.5 acres of drill pad clearing for an approximate total of 1.86 acres of disturbance in the PJ fuel type. Due to the existing tree cover of pinion and juniper, there will be a need for the operator to clear some of these trees. If not adequately treated, these trees will result in elevated hazardous fuels conditions and remain on-site for many years. These accumulations of dead material are very receptive to fire brands and spotting from wind driven fires and can greatly accelerate the rate of spread of the fire front. The road(s) associated with this project may be used by the general public for a variety of uses, including access for fire wood gathering, hunting and other dispersed recreational activities. Increased public use of an area will nearly always result in an increased potential for man-caused wildland fires.

The National Fire Plan calls for "firefighter and public safety" to be the highest priority for all fire management activities. In the pinion, juniper, and brush types common on the White River Resource Area, roads and other man-made openings are commonly used as fuel breaks or barriers to control the spread of both wildland and prescribed fires. By reducing the activity fuels created from this proposal, future fire management efforts in this area should be safer for those involved and more effective.

Environmental Consequences of the Proposed Action: There will be approximately 1.86 acres of road and well pad construction requiring the removal of pinion/juniper fuel type on the 22-1 well site. If not treated the slash and woody debris will create an elevated hazardous dead fuel loading which could pose as a control problem in the event of a wildfire. Additionally there would be greater threat to public, Riata/contracted personnel, and fire suppression personnel. The other locations proposed by this action are not located in or go through pinion/juniper and therefore will not create the dead fuel accumulation anticipated by the 22-1 well location.

Environmental Consequences of the No Action Alternative: There would be no tree removal or disturbance which would cause abnormal dead fuel loading.

Mitigation: Several options may be considered for treatment of slash from this project. A hydro-ax or other mulching type machine could be used to remove the trees. The machines are capable of shredding trees up to 12" in diameter and 15' tall as well as mowing brush like a

conventional brush beater. It generally leaves small branches and pieces of wood from pencil size up to bowling ball size. The mulch is evenly scattered across the surface and the tires or tracks distribute the weight of the equipment. This would effectively breakdown the woody fuel and scatter the debris thereby eliminating any hazardous fuel load adjacent to the new road and well pad.

The other option would be to cut trees and have them removed for firewood, posts, or other products in accordance with forest management and White River ROD/RMP guidelines. The branches and tops should be lopped and scattered to a depth of 24 inches or less. If the products are left for collection by the general public, they should be piled along the road side or pad to facilitate removal.

GEOLOGY AND MINERALS

Affected Environment: All of the Riata wells are located in the area identified in the White River ROD/RMP as available for oil shale leasing and development. Well locations 399-1-1 and 399-2-1 are also located in an area that is identified in the White River ROD/RMP as available for sodium leasing. These wells will develop federal oil and gas leases, COC- 60758, COC- 60757, and COC-60759. The surface geologic formation of the well location is either Uinta or alluvium and the Riata targeted zone is in the lower Mesaverde. During drilling potential water, oil shale, sodium, and gas zones will be encountered from surface to the targeted zone. Aquifers encountered during drilling are; the Perched in the Uinta, the A-groove, B-groove and the Dissolution Surface in the Green River formation. These areas along with the Wasatch formation are known for difficulties in drilling and cementing. Oil shale and sodium resources are also found in the Green River formation.

Environmental Consequences of the Proposed Action: Drilling and completion of this well may adversely affect the aquifers and the monitoring wells if there is loss of circulation or problems cementing the casing. However, the proposed cementing and completion procedure of the action isolates the formations and will prevent the migration of gas, water, and oil between formations. Development of these wells will deplete the hydrocarbon resources in the targeted formation. Well locations may prevent an orderly future development of oil shale resources.

Environmental Consequences of the No Action Alternative: The natural gas resources in the targeted zones will not be developed at this time.

Mitigation: None

PALEONTOLOGY

Affected Environment: For proposed well locations 399-1-1, 399-2-1, 299-27-5, 299-27-6, 299-22-1 well pads and access roads: The proposed well pad location is located in an area mapped as the Uinta Formation (Tweto 1979) which the BLM has classified as a Condition I formation meaning it is known to produce scientifically important fossil resources.

For 299-34-1and 299-34-2, the proposed well pad locations are located in an area generally mapped as the Uinta Formation (Tweto 1979) which the BLM has classified as a Condition I formation, meaning it is known to produce scientifically important fossil resources. However, the wells center stakes are located in an alluvial drainage bottom which suggests that fossils are unlikely.

Environmental Consequences of the Proposed Action: For well pads 399-1-1, 299-34-2, 299-27-5, 299-27-6 and 299-22-1 well pads and access roads: if it should become necessary to excavate into the underlying rock formation to construct the access road, level the well pad or excavate the reserve/blooie pit there is the potential to impact scientifically important fossil resources.

For wells 399-2-1 and 299-34-1 well pads: if it should become necessary to excavate into the underlying rock formation to level the well pad or excavate the reserve/blooie pit there is the potential to impact scientifically important fossil resources.

Environmental Consequences of the No Action Alternative: There would be no new impacts to fossil resources under the No Action Alternative.

Mitigation: For the proposed action: 1. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing paleontological sites, or for collecting fossils. If fossil materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- whether the materials appear to be of noteworthy scientific interest
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not feasible)

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

2. A paleontological monitor shall be required to be present prior to and during all excavation.

RANGELAND MANAGEMENT

Affected Environment: All the proposed locations, access roads and pipeline are within the Reagle allotment (06026). The Reagle allotment is permitted for cattle use with two operators whose use is as follows:

Larry Mautz: 70 cattle 5/1- 12/15 65% Federal 343 AUMs

Dean Mantle: 81 cattle 5/1- 12/15 100% Federal 610 AUMs

Environmental Consequences of the Proposed Action: The proposed action will result in the long term loss of about 4 AUMs of livestock forage. If the integrity of the affected fences is not maintained, intra-allotment livestock trespass could occur. If airborne dust coats vegetation adjacent to roads, the usability of that vegetation for forage will be negatively impacted (*see* Vegetation section).

Environmental Consequences of the No Action Alternative: There will be no change from the present situation.

Mitigation: The toe slope of the pad should not impact the Square S / Reagle allotment boundary fence.

Construction of the proposed locations, access roads and pipelines would involve at least two fence crossings that are on public land. Proper fence bracing and construction (to BLM standards) must be in place when going through a fence to maintain proper wire tension. The effectiveness (control of cattle) of these fences at these crossing points must be maintained at all times during construction and operation of the wells, pipelines and access roads.

Install minimum 20 foot width cattleguard with gate next to it to BLM specifications where the access road to location 299-22-1 crosses the Reagle/ Square S allotment boundary fence in SWSW Sec 22, T 2S R 99W.

Install minimum 20 foot width cattleguard with gate next to it to BLM specifications where the access road to locations 34-1,2 crosses the Reagle pasture boundary fence in SWSW Sec 26, T 2S R 99W.

FOR SECTION WITHDRAWN FOR LATER APPLICATION BY ROC
The pipeline route for location 399-1-1 follows a two track road that parallels a Mautz private land pasture fence in section 25. Riata will notify the rangeland management specialist in advance of construction of this pipeline. Integrity of this fence will be maintained. If the fence is damaged it will be reconstructed to BLM specifications. Frequent water barring of the pipeline (50 foot intervals) will be required where it goes up the hill in section 25.

REALTY AUTHORIZATIONS

Affected Environment: The access, water lines, and gas lines to the 8 wells will be on public lands, split estate private surface, and along Rio Blanco County roads. The pipeline connecting well# 399-1-1 to the existing ROC line will be under separate application from ROC.

Environmental Consequences of the Proposed Action: Rights-of-way needed are as indicated on the following table. Pipelines will be 30 feet wide and will be authorized under COC68985. Access will be 30 feet wide and will be authorized under COC 68935.

WELL #	ACCESS		WATERLINE		PIPELINE	
	LENGTH	ACRES	LENGTH	ACRES	LENGTH	ACRES
399-1-1	On lease	-	n/a	-	ROC application	-
399-2-1	On lease	-	n/a	-	1500 ft	1.033
299-34-1	2000 ft	1.377	n/a	-	On lease	-
299-34-2	See 34-1	-	n/a	-	On lease	-
299-27-5	On lease (22-1)	-	n/a	-	On lease (22-1)	-
299-27-6	On lease (22-1)	-	n/a	-	On lease (22-1)	-
299-22-1	5630 ft	3.877	n/a	-	5630 ft	3.877
TOTALS	7630 ft	5.254	-	-	7130	4.91

Environmental Consequences of the No Action Alternative: The APDs will not be authorized and the access and pipelines will not be constructed.

Mitigation:
1. Colorado One Call procedure must be initiated before any earthmoving begins.
2. Right-of-way grants must be issued for the access and pipelines before construction is to begin. Pipelines may not be constructed until wells are drilled and proven to be capable of production.

RECREATION

Affected Environment: The proposed action occurs within the White River Extensive Recreation Management Area (ERMA). BLM custodially manages the ERMA to provide for unstructured recreation activities such as hunting, dispersed camping, hiking, horseback riding, wildlife viewing and off-highway vehicle use.

The project area has been delineated a Recreation Opportunity Spectrum (ROS) class of Semi-Primitive Motorized (SPM). SPM recreation setting is typically characterized by a natural appearing environment with few administrative controls, low interaction between users but evidence of other users may be present. SPM recreation experience is characterized by a high probability of isolation from the sights and sounds of humans that offers an environment that offers challenge and risk.

Environmental Consequences of the Proposed Action: The public will directly lose approximately 18 acres of dispersed recreation potential while wells are in operation. The public will most likely not recreate in the vicinity of these facilities and will be dispersed elsewhere. If action coincides with hunting seasons (September through November) it will most likely disrupt the experience sought by those recreationists.

With the introduction of new well pads and roads, an increase of traffic could be expected increasing the likihood of human interactions, the sights and sounds associated with the human environment and a less naturally appearing environment.

Environmental Consequences of the No Action Alternative: No loss of dispersed recreation potential and no impact to hunting recreationists.

Mitigation: None.

VISUAL RESOURCES

Affected Environment: The proposed actions would all be located in an area with a VRM III classification. Three of the proposed actions would be located on private surface (399-2-1, 299-34-1, & 299-34-2) and not subject to the standards of the VRM III classification. The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

Environmental Consequences of the Proposed Action: The proposed action for wells 299-27-6, 299-27-5, & 299-22-1 would be located on a wide, sloping ridge with sagebrush parks and stands of pinyon/juniper. The proposed actions would not be visible from an existing road in Ryan Gulch, which would be the route traveled by a casual observer. The proposed action for well 399-1-1 would be located on a ridge (Wagon Road Ridge) in a stand of pinyon/juniper with an existing dirt road within 0.1 mile. A casual observer would be able to view the proposed action for a short period of time. By painting all facilities Juniper Green to blend with and mimic the surrounding and backdrop vegetation, the level of change to the characteristic landscape would be less than moderate, and the objectives of the VRM III classification would be retained.

Environmental Consequences of the No Action Alternative: There would be no additional impacts.

Mitigation: Paint all above ground facilities Juniper Green.

CUMULATIVE IMPACTS SUMMARY: Cumulative impacts from oil and gas development were analyzed in the White River Resource Area Proposed Resource Management Plan/Final Environmental Impact Statement (PRMP/FEIS) completed in June 1996. Current development, including the proposed action, has not exceeded the cumulative impacts from the foreseeable development analyzed in the PRMP/FEIS.

PERSONS / AGENCIES CONSULTED: None

REFERENCES CITED:

Conner, Carl E.
2005a Class III Cultural Resources Inventory for Five Wells (Fed 299-26-2, Fed 299-34-1, Fed. 299-34-2, Fed. 399-1-1, Fed. 399-2-1) in the Ryan Gulch and Wagon Road Ridge

Area of Rio Blanco County, Colorado for Riata Energy, Inc. Grand River Institute, Grand Junction, Colorado

2005b Class III Cultural Resources Inventory for Three Wells (Fed. 299-27-5, Fed. 299-27-6, Fed 299-22-1) in the Ryan Gulch and Stake Springs Draw Area of Rio Blanco County, Colorado for Riata Energy, Inc.

Tweto, Odgen

1979 Geologic Map of Colorado. United States Geologic Survey, Department of the Interior, Reston, Virginia.

INTERDISCIPLINARY REVIEW:

Name	Title	Area of Responsibility
Nate Dieterich	Hydrologist	Air Quality
Tamara Meagley	Natural Resource Specialist	Areas of Critical Environmental Concern
Tamara Meagley	Natural Resource Specialist	Threatened and Endangered Plant Species
Michael Selle	Archeologist	Cultural Resources Paleontological Resources
Mark Hafkenschiel	Rangeland Management Specialist	Invasive, Non-Native Species, Vegetation, Rangeland Management
Ed Hollowed	Wildlife Biologist	Migratory Birds
Ed Hollowed	Wildlife Biologist	Threatened, Endangered and Sensitive Animal Species, Wildlife
Bo Brown	Petroleum Engineer Tech/Hazmat Collateral	Wastes, Hazardous or Solid
Nate Dieterich	Hydrologist	Water Quality, Surface and Ground Hydrology and Water Rights
Ed Hollowed	Wildlife Biologist	Wetlands and Riparian Zones
Chris Ham	Outdoor Recreation Planner	Wilderness
Nate Dieterich	Hydrologist	Soils
Ed Hollowed	Wildlife Biologist	Wildlife Terrestrial and Aquatic
Chris Ham	Outdoor Recreation Planner	Access and Transportation
Ken Holsinger	Natural Resource Specialist	Fire Management
Robert J. Fowler	Forester	Forest Management
Paul Daggett	Mining Engineer	Geology and Minerals
Linda Jones	Realty Specialist	Realty Authorizations
Chris Ham	Outdoor Recreation Planner	Recreation
Keith Whitaker	Natural Resource Specialist	Visual Resources
Valerie Dobrich	Natural Resource Specialist	Wild Horses

Finding of No Significant Impact/Decision Record (FONSI/DR)

CO-110-2005-141-EA

FINDING OF NO SIGNIFICANT IMPACT (FONSI)/RATIONALE: The environmental assessment and analyzing the environmental effects of the proposed action have been reviewed. The approved mitigation measures (listed below) result in a Finding of No Significant Impact on the human environment. Therefore, an environmental impact statement is not necessary to further analyze the environmental effects of the proposed action.

DECISION/RATIONALE: It is my decision to approve development of the wells, access roads and pipelines as described in the proposed action, with the addition of the mitigation measures listed below. This development, with mitigation, is consistent with the decisions in the White River ROD/RMP, and environmental impacts will be minimal.

MITIGATION MEASURES: The location of the access roads and pipelines were mitigated at the onsite and the mitigation proposed in the above vegetation section regarding changing the access route and pipeline location is not carried forward.

1. The operator will be responsible for complying with all local, state, and federal air quality regulations as well as providing documentation to the BLM that they have done so.

2. To minimize production of fugitive dust, vehicle speeds must not exceed 15 mph *or* dust plumes must not be visible at speeds appropriate for road design. The application of a dust suppressant (e.g. water or "Dust Stop") will be required during dry periods when dust plumes are visible at speeds less than or equal to 15 mph.

3. Topsoil stockpiled for short time periods as is the case with road and pipeline construction will be wetted to limit dust production. Stockpiled soils left for extended time periods (e.g. stockpiles associated with pad construction) will be covered with geotextile fabrics such as (but not limited to) jute netting. Covered stockpiles will then be seeded per recommendations in the Vegetation section below.

4. If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

5. Pursuant to 43 CFR 10.4(g) the holder of this authorization must notify the AO, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you

must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.

6. The operator will be required to monitor the project area for a minimum of three years post disturbance and eradicate all noxious and invasive species which occur on site using materials and methods approved in advance by the Authorized Officer.

7. The operator will be responsible for applying techniques to effectively abandon the existing 2-track that originates from RBC 68 near the middle of section 27 and extends northwest to the existing fence corner. The newly created well access to the existing fenceline will remain open for public access.

8. The use of interim reclamation techniques will be used to the extent practicable on all pads such that all available topsoil material would be used to recontour cut and fill slopes and areas outside the anchors (maintaining the viability of the soils for final reclamation), production facilities are located to maximize the extent of surface disturbance available for effective reclamation over the productive life of the well (e.g., where access road enters pad), and all disturbed areas are reseeded once well completion activities have been finalized.

9. The applicant shall be required to collect and properly dispose of any solid wastes generated by the proposed actions

10. No operations using chemical processes or other pollutants in their activities will be allowed to occur within 200 feet of any water bodies. The operator will be responsible for complying with all local, state, and federal water quality regulations as well as providing documentation to the BLM that they have done so.

11. Comply with "Gold Book" surface operating standards for constructing well pads, pipelines and access roads, which is available in the White River Field Office if needed.

12. In compliance with the White River ROD/RMP, drain dips will be used in place of culverts on slopes less than 10%. Energy dissipaters such as large gravels/small cobbles will be used at culvert and drainage dip outlets to minimize additional erosion. To mitigate water being channelized down the roadway, all activity must stop when soils or road surfaces become saturated to a depth of three inches. Mud blading will be prohibited in attempts to reduce further soil displacement. In addition, to mitigate surface erosion due to removal of ground cover at well pads, stockpiled soils must be covered and silt fences will be used on down gradient sides.

13. Complete reclamation will follow abandonment of well pads and access roads. Access roads and well pads will be recontoured, flow deflectors and sediment traps (woody debris) will be evenly redistributed over all disturbed areas, and 100% of disturbed surfaces will be revegetated with Native Seed Mix #3.

14. To mitigate contamination of local ground water, environmentally unfriendly substances (e.g. diesel) must not be allowed to contact soils. The use of impermeable matting under equipment is suggested to intercept such contaminants prior to contacting soils. Furthermore, all pits must be lined and all wastes associated with construction and drilling will be properly treated and

disposed of. Finally, aquifers beneficial for human consumption and livestock encountered during the drilling process must be properly sealed to reduce potential for contamination.

15. To reduce the impacts of compaction and rut development caused by increased traffic on newly constructed access roads, only BLM authorized motorized vehicle travel will be permitted. Gate installation combined with additional physical obstructions (e.g. rock boulders) will be necessary to keep unauthorized traffic from deteriorating the roadway.

16. Promptly revegetate all disturbed areas with Native Seed Mix # 3: Seed mixture rates are Pure Live Seed (PLS) pounds per acre.

Native Seed Mix #3		
Western wheatgrass (Rosanna)	2	Gravelly 10"-14", Pinyon/Juniper Woodland, Stony Foothills, 147 (Mountain Mahogany)
Bluebunch wheatgrass (Whitmar)	2	
Needle and thread	1	
Indian ricegrass (Rimrock)	2	
Fourwing saltbush (Wytana)	1	
Utah sweetvetch	1	

17. If construction/development occurs between April 15 and November 15, the operator will be required to water or surface access roads to reduce airborne dust and damage to roadside vegetation communities.

18. Mitigation that is applicable to terrestrial habitats, in part, has been incorporated into the proposed action or addressed in the Threatened, Endangered, and Sensitive Animal section above.

19. The operator shall prevent use by migratory birds of reserve pits that store or are expected to store fluids which may pose a risk to such birds (e.g., migratory waterfowl, shorebirds, wading birds and raptors) during completion and after completion activities have ceased. Methods may include netting, the use of bird-balls, or other alternative methods that effectively prevent use and that meet BLM approval. It will be the responsibility of the operator to notify the BLM of the method that will be used to prevent use two weeks prior to when completion activities are expected to begin. The BLM approved method will be applied within 24 hours after completion activities have begun. All lethal and non-lethal events that involve migratory birds will be reported to the Petroleum Engineer Technician immediately.

20. Several options may be considered for treatment of slash from this project. A hydro-ax or other mulching type machine could be used to remove the trees. The machines are capable of shredding trees up to 12" in diameter and 15' tall as well as mowing brush like a conventional brush beater. It generally leaves small branches and pieces of wood from pencil size up to bowling ball size. The mulch is evenly scattered across the surface and the tires or tracks distribute the weight of the equipment. This would effectively breakdown the woody fuel and scatter the debris thereby eliminating any hazardous fuel load adjacent to the new road and well pad.

21. The other option would be to cut trees and have them removed for firewood, posts, or other products in accordance with forest management and White River ROD/RMP guidelines. The

branches and tops should be lopped and scattered to a depth of 24 inches or less. If the products are left for collection by the general public, they should be piled along the road side or pad to facilitate removal.

22. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing paleontological sites, or for collecting fossils. If fossil materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- whether the materials appear to be of noteworthy scientific interest
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not feasible)

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

23. A paleontological monitor shall be required to be present prior to and during all excavation.

24. The toe slope of the pad should not impact the Square S / Reagle allotment boundary fence.

25. Construction of the proposed locations, access roads and pipelines would involve at least two fence crossings that are on public land. Proper fence bracing and construction (to BLM standards) must be in place when going through a fence to maintain proper wire tension. The effectiveness (control of cattle) of these fences at these crossing points must be maintained at all times during construction and operation of the wells, pipelines and access roads.

26. Install minimum 20 foot width cattleguard with gate next to it to BLM specifications where the access road to location 299-22-1 crosses the Reagle/ Square S allotment boundary fence in SWSW Sec 22, T 2S R 99W.

27. Install minimum 20 foot width cattleguard with gate next to it to BLM specifications where the access road to locations 34-1-2 crosses the Reagle pasture boundary fence in SWSW Sec 26, T 2S R 99W.

28. The pipeline route for well 399-1-1 will be applied for by ROC at a future date. It follows a two track road that parallels a Mautz private land pasture fence in section 25. Riata will notify the rangeland management specialist in advance of construction. Integrity of this fence will be maintained. If the fence is damaged it will be reconstructed to BLM specifications. Frequent water barring of the pipeline (50 foot intervals) will be required where it goes up the hill in section 25.

29. Colorado One Call procedure must be initiated before any earthmoving begins.

30. Right-of-way grants must be issued for the access and pipelines before construction is to begin. Pipelines may not be constructed until wells are drilled and proven to be capable of production.

31. Paint all production facilities (Munsell Soil Color Chart of Standard Environmental Colors) ***Juniper Green*** within 6 months of installation.

COMPLIANCE/MONITORING:

NAME OF PREPARER: Tamara Meagley 09-20-05

NAME OF ENVIRONMENTAL COORDINATOR: Caroline Hollowed

SIGNATURE OF AUTHORIZED OFFICIAL: Acting Field Manager

DATE SIGNED: 9/21/05

ATTACHMENTS: Location map of the proposed action

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Location of Proposed Action
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